GUIDELINES ON

RETAIL DISTRIBUTION OF PESTICIDES WITH PARTICULAR REFERENCE TO STORAGE AND HANDLING AT THE POINT OF SUPPLY TO USERS IN DEVELOPING COUNTRIES

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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Rome - October 1988

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1. INTRODUCTION

Pesticides may pose risks to man and his environment from their stage of manufacture until they are used, disposed of safely or completely degraded. One source of risk is during storage and handling at the point of supply to users. The risks may be even greater in developing countries which usually lack the infrastructure and suitably trained personnel for their safe handling during the stage of distribution.

In most instances a pesticide may be imported from the country of origin and transported by sea, then by road or rail to the warehouse. This may be followed by transport by road to major distributors in the country who in turn send them to retailers or dealers most of whom may be situated in rural areas.

The pesticide may be stored under rather varying conditions which could adversely affect its physical and chemical properties and damage the packaging by the time the end-user receives it. Thus pesticides must be suitably packaged to withstand the rigours of transportation, loading, unloading and storage at various points from the manufacturing or packaging premises until supplied to the user. It must also be recognized that pesticides can pose danger to man and his environment through spillage directly on persons handling them, contamination of food and other articles, or leakage into the environment during the various stages of transportation, loading, unloading and storage. It is therefore imperative that due care be exercised to minimize the deleterious effects of the pesticide to man and his environment, and also to ensure that the quality of the pesticide remains unchanged within acceptable limits until it is used.

Note:

"Shop" and "store" refer to premises of retail outlets where pesticides are generally sold directly to farmers. It is customary for retailers to have a little store either within the premises or very close to it for storing pesticides.

"Godown" or "warehouse" refers to a large store where relatively large quantities of pesticides may be stored usually by importers, manufacturers, formulators, packers or wholesalers.

2. GENERAL PRECAUTIONS/REQUIREMENTS

The precautions for handling and use of a chemical should be read carefully with respect to each active ingredient as stated on the label. Warnings and cautionary statements should be strictly observed, and first-aid measures noted before handling.

2.1 Safety and first-aid equipment

All necessary safety, first-aid and rescue equipment and supplies which may be required, should be available and readily accessible before handling a pesticide. Depending on the hazard of the material being handled, such necessary supplies may include specific or all-purpose gas masks; respirators; goggles or face shields for eye and face protection; water-proof and impervious

complete outer clothing, including gloves, boots, hat and long-sleeved, buttoned coat or suit completely covering the worker; adequate emergency water supply for washing off corrosive or toxic materials getting on the skin; and facilities for washing eyes such as fixed or portable eye-wash fountains.

2.2 Procedure for cleaning up spills

Pesticide spillage may be cleaned up in the following way:

2.2.1 Spilled dusts and powders

Cover dust or powder spills with double their volume of absorbent material such as sand, soil or sawdust. Carefully sweep up pesticide and absorbent material, using a broom, into a disposable container. Finally burn or bury the broom and container at least 0.5 metres (18 inches) deep.

2.2.2 Spilled liquids

Cover liquid spills with an inert absorbant such as sand, soil or sawdust. After the liquid has been absorbed, carefully sweep it up using a broom, into a disposable container. Burn or bury the container and broom at least 0.5 metres (about 20 inches) deep.

2.3 Decontamination of spill area

A spill area may be decontaminated in one of the following ways (for specific directions, seek the advice of the manufacturers regarding their product):

Sprinkle the area with hydrated lime or soda ash (1 handful/0.1 sq. metre), and using a hose or sprinkling can, dampen it slightly; rope off the area overnight. Repeat the procedure if necessary. Absorb the scrubbing liquid in clay or similar material, place in a disposable container and burn or bury at least 0.5 metre (20 inches) deep, or cover the contaminated surface with undiluted household bleach and scrub it with long-handled brushes for at least half an hour. Avoid breathing vapours from this process. Take up the scrubbing liquid with absorbent clay or similar material; repeat the entire clean-up procedure, and allow the treated area to dry. Dispose of the contaminated absorbent and brushes by burning them in a disposable container or burying them at least 0.5 metre (20 inches) deep.

Large spillages or leakages in storage warehouses, sales display rooms, docksides, shipholds, etc., should be reported to the appropriate authorities immediately (e.g., Public Health or Port Authorities). Spillages or leaks of chemical containers in sales or display rooms should be reported immediately to the management for necessary action such as cordoning off, cleaning up and decontamination of the area. If any spillage has contaminated crops, waterways or ditches, the appropriate authority should be alerted. Spillage should be prevented from spreading with a barrier of the most suitable available material, e.g., sand or earth. Instructions should be given not to use the contaminated crop or water.

3. SALE AND STORAGE

3.1 Separation from food, medicine

Pesticides must not be sold in shops which also sell food, drinks or medicine for human or animal consumption, unless there is a permanent physical partition between these products and the pesticides. The partition must be at least 3 metres high or reach up to the ceiling, whichever is lower.

Pesticides must be stored/displayed separately and away from all other materials to avoid any possibility of their contamination and confusion with other materials.

Pesticides may also be stored/displayed in a locked cupboard or rack.

Volatile pesticides should not be stored/displayed in restricted atmospheres, such as in air conditioned rooms.

3.2 Container

A pesticide should only be sold in its original container. Never transfer a pesticide to a food or beverage container.

A pesticide should not be sold if its container is cracked, rusted or damaged or if its original label is illegible.

3.3 Age for purchase

A pesticide must not be sold to a minor, usually any person below 18 years of age.

3.4 Rules/Code

All rules or conditions stipulated by the national government must be adhered to.

The FAO "International Code of Conduct on the Distribution and Use of Pesticides" should be strictly observed.

3.5 Fire fighting equipment

Fire fighting equipment as approved by the local Fire Department must be available within the premises where the pesticide is sold or stored.

3.6 Warning notice

A notice board with the words "DANGER PESTICIDES", "NO SMOKING, EATING OR DRINKING" must be clearly exhibited in a place that is easily visible within the premises. The background of the notice board must be white in colour while the words must be of a dark red colour. The size of the letters must be at least 10cm high. A symbol of the skull and cross bones in black, measuring at least

20cm high, must also be included on the board. In addition, the statement "NOT TO BE SOLD TO PERSONS BELOW 18 YEARS OF AGE" must be clearly displayed.

Notice boards showing the requirement for the use of safety glasses, gloves and other safety devices or clothing must be exhibited in areas where such safety measures are required.

3.7 Security

The pesticide store must always be locked to avoid theft and unauthorized access.

Pesticides must be stored away from and out of reach of children, animals and unauthorized persons.

3.8 Rotation of stock

The stock of pesticides must be rotated to avoid expiration of shelf life or if required to be stored over seasons the stock must be maintained at a reasonable operating minimum.

3.9 Structure of premises

The floor within the shop/store should be constructed with material which is impervious to water and should not crack easily. Concrete flooring may be used.

The wall in the shop/store must be constructed of material which is impervious to water. If this is not feasible, the wall must be constructed of concrete to a height of at least 60cm from the floor, and other, suitable material used from then onwards up to the ceiling.

The shop should be dry and well ventilated with adequate air circulation without air conditioning. There should be adequate lighting within the shop.

The store must have adequate ventilation or other provisions such as exhaust fan, vents for air circulation. It is not advisable to install a central cooling system.

3.10 Records

Shopkeepers are advised to keep a record of all pesticides received, stored, destroyed, or sold. (see Annex I)

Pesticides which are restricted or require special precautions must be separated from other pesticides and stored under lock and key.

Records of details on restricted pesticides such as date of purchase, name, address and signature of purchaser, trade name, registration number and quantity of each pesticide purchased, should be made.

3.11 Damaged containers

Pesticides received in damaged containers must be kept separately and returned to the supplier or disposed of. A notice with the words "NOT FOR SALE" in the local language(s), with letters of a minimum height of 10cm, must be placed above these containers. The background of the notice board must be white in colour while the words must be of a dark red colour.

3.12 Leakage and spillage

All shops must have facilities such as buckets with lime, sawdust or clay, empty containers, spade and adequate water supply for cleaning of pesticide spillage.

If pesticides are spilt they must be cleaned immediately.

3.13 Stacking

Pesticides should be exhibited on racks or on pallets, but they should not be stacked to a height exceeding 2.5 metres. The distance between racks must be at least 1 metre wide.

If a pesticide is stacked on the floor, it must be placed on pallets. The number of packages that may be placed on the pallets would depend on the size and nature of the packaging but the stack including the shelf must not exceed 1.3 metres high. Only one package is permitted to be placed on top of another, and each package must not be more than 1.3 metres high. The distance between the rows of pallets must be at least 1 metre wide.

3.14 General storage conditions

Pesticides must not be stored in the kitchen or in the visitor's room of the premises.

Areas where pesticides are stored must be regularly inspected to ensure that the premises and pesticides are in an acceptable condition.

There should be no smoking, eating or drinking within the vicinity of the pesticides.

Pesticides must not be kept in a place exposed to sunlight, water or moisture as this could affect the stability of the product.

Note:
If a temporary store is erected in the local market, it must fulfil the general storage conditions as in Paragraph 3.14.

4. STORAGE IN GODOWNS

4.1 Conditions

The conditions of the godown must be taken into account and follow rules/regulations/guidelines that may be in force locally,

including those spelt out under the "International Code of Conduct on the Distribution and Use of Pesticides".

4.2 Location

The godown must be located away from:

- Residential areas, villages or other areas where people or animals are domiciled.
- Factories that manufacture or process food for humans or animals.
- Water sources such as rivers, wells, canals or lakes.

The godown should be located on high ground (where water does not stagnate) or in an area which is not subject to flooding.

The godown should be in a place which is easily accessible to all transport vehicles including fire engines.

The godown must have a fence all round and unauthorised persons should not be permitted within the premises.

4.3 Structure of premises

The godown should have good air circulation. The vent must be at least 1/150 of the floor area. The temperature within the godown must not exceed 55 degrees Celsius. Exhaust fans may be installed to improve the ventilation.

A sloping, concrete drain, having a minimum depth of 15cm below the floor level of the godown, and running around the walls or in any appropriate area in the godown, must be built, to enable any pesticide spillages to be washed and channelled out to a special collecting area in order that the surrounding areas are not contaminated by such spillage or washing.

A sump must be built within the godown area, connected to the concrete drain in the godown for the purpose of collecting pesticide spillage and washings flowing out from the godown. The depth of such sump must be greater than that of the concrete drain in the godown and it must have a holding capacity of at least two or three times any washings of any pesticide spillage.

All electrical wiring must be concealed within conduits.

4.4 Separation

If fertilizers are to be stored within the same godown, they must be separated from pesticides.

4.5 Records

Godown Managers must have a system of recording the pesticides received, stored, destroyed or removed from the store. (Annex I).

4.6 First-Aid

Guidelines on first-aid treatment, and the name, address and telephone number of the person to be contacted in case of emergency, must be displayed in a conspicuous position in the godown. This information must be in the local languages normally used and easily understood in the locality.

4.7 Inspection

All loading/unloading, arranging, or inspection of pesticides in the godown must be carried out jointly by at least 2 persons at any one time.

5. TRANSPORTATION

5.1 General Advice

Pesticides should not be shipped or transported in the same container or compartment with cargo that could become a hazard if contaminated, such as food, drugs, toys, clothing, cosmetics or household furnishings. This is particularly so with trucks transporting pesticides, fertilizers, and farm produce to or from the farm.

Pesticides should not be carried in passenger compartments of transport vehicles. Care must be taken to ensure that persons travelling on the same vehicle with a cargo of pesticides are not subjected to exposure to the chemicals or their vapours. Vehicle-attendants should not ride with a pesticide cargo.

Vehicles transporting pesticides should carry "hazard warning or cautionary notices", prominently displayed.

Pesticides should at all times during transport be kept tightly secure and covered.

5.2 Steps to Prevent Leaks or Spills

Transport and handling operations should take the following steps to prevent leaks or spills:

Prior to or during loading, each chemical container should be inspected for tightness of closure of seal and for any evidence of leakage around the closure, on the top, along the sides, on the bottom and under the container. Containers showing any evidence of leaks should not be loaded. If a high percentage of containers in a shipment show evidence of leakage, the entire shipment should not be loaded.

Pesticide containers should be loaded into the carrier and secured inside the cargo compartment in such a way that they are held in place securely, without the possibility of damaging each other or being damaged in transit by other cargo.

In the loading and unloading of chemicals, only equipment and tools which will not damage the containers should be used. In particular, the use of hooks which may puncture or tear the containers must not be permitted.

5.3 Emergency Response

All supervisory personnel involved in the loading, transporting and the unloading of chemicals should be fully informed about the toxicity and the hazard potential of the pesticide (s) they are handling. They should be provided with information on how to deal with spills of the particular pesticide(s) they are handling, and whom to call in an emergency for medical and technical information.

Personnel, especially supervisory persons, should be trained in appropriate first-aid and rescue procedures.

ANNEX I

RECORD OF PESTICIDES IN GODOWNS

Receiving/Despatching

Data received
Supplier/receiver
Truck number
Invoice number
Trade name of pesticide
Registration number
Quantity

Note:

The above records must be kept on pesticides in godowns. In addition, similar records may be kept by retailers for certain highly toxic or restricted pesticides, and it should include the name and address of the purchaser.

M/S8254/E/8.88/1/2000